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ABSTRACT

Noting that there are far too many variables ever to have the same teaching results with different people in different classes in different historical times and places, this paper describes methods for helping educational psychology students to learn to assess systematically the results of teaching. First, making one's thinking overt helps students to develop their metacognitive skills. Second, showing students not only the popular methods but also contradictory approaches helps them to learn that no approach is completely right or completely wrong. The class can look for the results of each and decide merits and limitations in terms of learning, attitudes, and engagement. There are always students in class who prefer learning from those more familiar, traditional methods, so by discussing the pros and cons for individuals, students become better able to select approaches that match goals and children. Third, class discussions encourage class members to share their observations of members' attitudes and learning. Students experience the scientific process in action: hypothesize, test, measure the results, and revise one's theory accordingly. Finally, class assignments help students to apply the learning with children. (Author/HTH)

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The Teacher as Researcher: An Experimental Approach toward Teaching in the College Classroom and Beyond

Darlene DeMarie

Abstract

Teaching others to teach should not be done using a "cookbook approach." There are far too many variables to ever have the same results with different people in different classes in different historical times and places, given the infinite number of possible patterns of relationships. This paper describes methods for helping educational psychology students to learn to assess the results of teaching systematically. First, making one's thinking overt helps students to develop their metacognitive skills. Second, showing students not only the popular methods but also contradictory approaches helps them to learn that no approach is completely right or completely wrong. We look for the results of each and decide merits and limitations in terms of learning, attitudes, and engagement. There are always people in class who prefer learning from those more familiar, traditional methods, so by discussing the pros and cons for individuals, students become better able to select approaches that match goals and children. Third, class discussions encourage class members to share their observations of members' attitudes and learning. Students experience the the scientific process in action: hypothesize, test, measure the results, and revise one's theory accordingly. Finally, class assignments help students to apply the learning with children.

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Without an undergraduate background in experimental psychology and independent investigations outside the college classroom, I think I would have been a terrible public school teacher. In the 1970s, education classes gave us answers rather than encouraging us to ask and answer questions that arose during teaching. We never explored or measured the results of approaches. Instead, we learned to use textbooks for teaching, and we practiced delivering well-structured, predictable lessons. The teachers' manuals specified the questions we should ask and the answers we should expect from children. It was assumed that children who did not fit within the boxed curriculum would be referred to the school psychologist, who would try to determine what was wrong with them.

In retrospect, I ventured into teaching with confidence that was not justified. Fortunately, I also had a sound educational philosophy and the knowledge and motivation to employ an experimental approach toward teaching. I had acquired my philosophy, knowledge, and motivation as a result of taking courses outside the education department, interacting with education professors outside of class, reading trade books, and completing a major in psychology. I attended a small, liberal arts college, where students were encouraged to pursue their own interests and to seek answers to their own questions, even if their interests and questions crossed traditional, disciplinary boundaries. My professors knew me well, and they facilitated my learning.

Lessons Learned Outside Education Classes: Educational Philosophy and Experimental Attitude

My educational philosophy, through which I viewed children as worthy of respect and capable of being active learners, evolved from taking an elective course in child development from the psychology department and from reading trade books that I purchased at local bookstores. I read about the British Infant Schools and books by Jonathan Kozol, Sylvia Ashton-Warner, John Holt, James Herdon, Maria Montessori, and others. These books were recommended by education professors but were read outside of any of their classes. Although the textbooks we read for education classes seemed dead by comparison, my independent readings

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showed me that ideas about education were alive and were stimulating. I learned to take a developmental perspective—to focus on children's progress along a continuum of learning—rather than to focus on their deficits when performing prescribed curriculum tasks. By taking this perspective, I was convinced that some approach to teaching would work, if only I could discover it. However, without having an experimental approach toward teaching, I would not have known how to assess the results of what I tried systematically.

Therefore, I think the most important lesson I learned outside of education classes was an experimental approach toward teaching. As a psychology major, I learned to observe and to measure behavior systematically. Although we usually took this approach with rats in Skinner boxes within laboratory classes, the science of observing and measuring behavior was ingrained in all psychology students at that time. One professor permitted me to take two psychology courses by independent study. Instead of attending traditional lectures and taking tests, he permitted me to conduct self-designed studies in schools. One semester, I investigated whether toys that had moderate novelty promoted longer periods of children's sustained attention at a Montessori school. Another semester, I studied the differences in personality development between children in a traditional classroom versus an experimental first-grade open classroom. (At that time, other education majors did not enter a classroom until their student teaching experience began.)

Regardless of my own experiences, I do not think students should have to leave education to learn to use the scientific method in teaching. First, I will explain how my experimental attitude helped me to teach children. Next, I will explain some of the methods I use to help cultivate that disposition within the educational psychology students I teach at the University of South Florida.

My First Public School Teaching Position

To help to illustrate why I am an advocate of the experimental approach, I will describe some of my early teaching experiences and how my experimental approach saved my students from a year of frustration. In 1974, my teaching career began at a school that bordered Appalachia in southeastern Ohio. Consistent with my previous education course training, when I first entered the school, I was given basal reading and math series plus a box of chalk with one eraser, one package of construction paper, a stapler with one box of staples, several reams of writing and drawing paper, and 33 first-graders to teach. After one week in the classroom, I knew something was wrong with the teacher scripts and stories in the textbooks I was mandated to use. I knew by observing my students' behavior.

When my children read stories that took place at the airport, in city parks, within a department store, etc., they mispronounced many of the words. They had difficulty pronouncing the vocabulary, not only because they lacked the decoding skills, but because the terms were completely unfamiliar to them. They looked away from the pages frequently. When I tried to engage them by asking about their experiences in those situations, their silence told me they had no experiences to share. When I asked them the prescribed questions from the teacher's manual, they gave me blank stares. Yet, they arrived every morning with rich stories to tell me about their own experiences. They told me about their new puppies and how they watched calves being born. They told me about their baby brothers and sisters. They told me about the police coming to take their daddy to jail. They had a lot to share, so my challenge became one of helping them to transfer what they already knew into symbols on paper that others could read.

The next approach I tried was to add books about baby sisters and brothers, animals, farms, etc., to the book corner, but I observed that few chose to read any of the books. I watched children holding books improperly. I realized that they probably did not have role models who read at home. I began to read books to them three times during each day. Although I initially thought teachers should read books to children that were more difficult than what the children could be expected to read themselves, I observed how my children's attention wandered after short periods of reading. Longer stories or chapter books clearly did not engage their attention. I tried reading shorter books (ones that I later read to my son at 18 months of age) with lots of expression, and they smiled and listened attentively. They asked if we could read

another book after I finished reading the first book. When I read a book I had read before, they tried to say the words with me. Books with rhyme always resulted in lots of class participation, and when these books were placed in the book corner, I observed many children imitating my book-reading behavior there. They began to request books for us to read together.

Children dictated stories to seventh/eighth-grade honor students and parent volunteers who assisted in the classroom. Children then illustrated their stories with pictures. These stories were read more frequently than any other books that were in the book corner. Each child became the expert of his or her own book. Of the 33 children, 28 chose to write every day, and they eagerly read each other's work. The vocabulary in their stories and books required a much higher level of decoding skills than any stories with controlled vocabulary in the basal reading series. Yet, the children mispronounced fewer words.

At this point, some readers may think I should have had better early literacy courses in my college education program. Then surely I would have known these things about literacy development. However, I do not think a course that contained only information about literacy development and procedures to use to teach children to learn to read would have helped me to maximize my children's literacy development. Without training that motivated me to observe the children's behavior, I may not have learned which books and which experiences actually engaged my children.

When I later went to teach second grade at a school that contained a large percentage of children from middle-class families, they enjoyed very different types of books and experiences. They loved to listen to long chapter books that I would have thought were more appropriate for fifth- or sixth-graders. They cheered when I agreed to read "just one more chapter" before putting the book away for the day. They brought their favorite books from home to share with one another. They loved to write factual reports and conducted research on various topics. Again, it was my observations of the amount of time they paid attention, their participation with me when reading stories, comments made during stories, and their loud cheers that revealed what worked and what I should avoid in the future. Although classes on assessment are part of the education curriculum these days, many of these courses focus on skill assessment rather than on behavioral assessment. Knowing the sequence of skill development may help teachers to plan age-appropriate instruction, but it is only by observing actual behavior that we can determine what is individually appropriate or culturally appropriate for our children (see Bredekamp & Copple, 1997).

I think if teacher educators encouraged students to experiment with possibilities and to assess the results of what they did with children, they would be better teachers for the children in their classes. This is the disposition I try to cultivate in my students—an experimental approach toward teaching. Every class is different, and what works with one class probably will be quite different from what works with another class—even at the college level, where we also need to observe our students' behavior. In the next section, I will describe the experimental approach toward teaching, and then I will describe how I try to cultivate it within the classes I teach.

An Experimental Approach toward Teaching

Experienced teachers who have an experimental attitude toward teaching have a large repertoire of approaches. They have taught many different students, and they have figured out ways to reach different individuals. They initially formed a theory about how their students would learn and hypothesized that a particular approach would work best. Then they carefully observed and measured their students' learning. Finally, they revised their theory according to the results. This approach is the heart of the scientific method: theory, hypothesize, test, measure, and revise the theory.

For some reason, experiments, research, and the scientific method are perceived as four-letter words by many educators. Perhaps these words evoke images of people in white lab coats. Perhaps the scientific method was learned only as a definition to put on a written test in science classes. Perhaps some people had psychology courses similar to the ones I had, but instead of acquiring the experimental disposition, they focused only on the literal experiences of

training rats in Skinner boxes. Perhaps those terms are perceived to be far removed from teaching real children in real classrooms. Yet, the early childhood literature is filled with images of teachers and teacher educators in the role of researchers and ways for teachers to cultivate an experimental disposition among students.

Lilian Katz (1995) recommended that when we try to help others with their teaching we "phrase suggestions in experimental form" (p. 261). Lilian Katz also described how teachers can help children to approach social situations with a "try and see how this works and let me know" approach rather than a "do this" approach. If the teacher only told the teacher candidate or child what to do, and then the person encountered failure, he or she would be likely to give up. On the other hand, if the teacher gives the person options to try and instructions to report the results, he or she will realize that there are many possibilities. The implication of having many possibilities is that it may be necessary to keep trying if one is not successful.

The early childhood professionals in Reggio Emilia, Italy, talk about the "teacher as researcher," and they encourage teachers to help children to test their own ideas. Carolyn Edwards (1998) described how a teacher in Reggio Emilia turned a dispute into a "hypothesis to test" (p. 194). The 5-year-old children were trying to decide how to communicate directions to 3-year-olds who would be entering their school the next year. Should the directions be drawn in pictures or in scribbles? The teacher suggested they prepare the two ways and see which of them would work better.

This example shows the scientific method in action within the classroom. The children had theories of how young children preferred directions to be written. One hypothesized that drawing pictures would be more understandable, and one hypothesized that scribbles would be more understandable. They tested their hypotheses by asking the 3-year-olds in the school to vote on one method. After obtaining the results, some of the children revised their theories. The younger children's votes showed that they clearly preferred the drawings.

I contend that an experimental approach toward teaching is appropriate at any level, and I have tried to cultivate that way of teaching by example within the educational psychology classes I teach. I strongly oppose teaching others to teach with a "cookbook approach." There is no right or wrong way to teach. Each method will accomplish different goals with different people within different contexts. There may be different short- versus long-term benefits or consequences too. In other words, the results depend on what one is trying to teach, to whom, when, and where. The key is to assess the results of what you do so you know what worked or what did not work. The remainder of this paper describes methods I use to help educational psychology students to learn to assess the results of teaching systematically.

Starting the Semester in Educational Psychology Class

How does one cultivate a climate for having an experimental attitude? I try to cultivate this climate from the first class of the semester. I will describe some of the methods I have used in my course EDF 3122, Learning and the Developing Child. I usually have 40 students majoring in elementary education (certified to teach grades one to six) each semester.

After reviewing the syllabus and providing students with an overview of the course during the first class, I give a short memory test. I have students check their answers and discuss their memory strategies to learn the words. I list their different strategies on the board. Next, I have them guess how many items a second-grader would remember and how they think she would approach that same learning task. After they guess (i.e., hypothesize), I show them a brief video of a child's performance. We discuss how the child's strategies were the same or different from what they expected. This first class example sets the tone and helps students to see the base for this educational psychology course: an experimental approach toward teaching.

Although this activity will later be used to address some content from the course, it seems disconnected. I never give students an advance organizer to see what we will be doing during the class time and how it is interrelated with course content. Although this approach is a poor strategy for teaching, I think it is important for students to have this experience. At the beginning of the second class, I write an

outline (i.e., an advance organizer) of how class time will be used. Again, we will be doing a memory task. However, the outline of the class shows students what the main points will be and how they are interrelated. In the textbook that I used previously, this topic was part of the chapter on classroom management. Now, instead of it being only a part of a chapter, students have the opportunity to experience it.

Before administering a memory task during the second class, students are randomly assigned to three different groups by having them draw a 1, 2, or 3 out of a folder. All three groups are told to listen to the 24 words (4 members of each of 6 different categories) I say and to write a number to represent each word. However, their tasks differ. The 1s picture each letter being written as a capital letter and count and write the number of letters that contain curves. The 2s listen to the sound of each word and write the number of syllables each word contains. Groups 1 and 2 are told that they should not think of the meaning of any of the words. They should only think about the way the letters look (group 1) or the sounds of words by syllables (group 2). (It is easy to determine whether groups 1 and 2 followed instructions by seeing the order of what they recalled. If they recalled words by category, they had to be thinking about the meaning of those words.) The 3s are told to think about the meaning of each word and to write a number that represents how pleasant or unpleasant that word is. After the tasks, everyone tries to recall the words. Papers are self-scored, and volunteers compute means for each group. After students learn why we did the memory task and which strategy was most effective for learning, we begin discussing the information processing approach. One of the main points of that class is to show that two people can spend exactly the same amount of time studying, but they will remember different amounts of material because of what they do to remember. This task helps me to show the importance of making information meaningful and how much easier it is to remember what is meaningful to us. I also use it to discuss the characteristics of true experiments.

Before the end of the second class, I ask students how the first class and the second class differed. Was one harder or easier and why? I show them the outline I would have put on the board for the first class and ask if their notes reflected that organizational structure. I explain what an advance organizer is and how it helps. Their observations usually support the points I planned to make. I explain my hypothesis that they would find the second class easier. If I gave them a test on their knowledge, I would expect them to remember more from the second class. If I varied the order and gave a different class the advance organizer for the first class and not for the second class, what results would they expect? I also reveal how I covered the content of the educational psychology course through the lecture, the demonstration, the discussion, and the process. All of these strategies support students' learning of different types of content. I tell them why I chose to lecture for some content, but that the learning is enhanced by active learning strategies, which I will demonstrate throughout the semester.

I try to model all of the different approaches that result from the theories we study and the vocabulary we learn. For example, I model an integrated curriculum. Though many college education classes preach using integrated curriculum with children, it is common for college classes to use a single textbook and proceed from chapter to chapter sequentially. If integrated curriculum really is more meaningful for students, why are college classes exempt? Whereas I used to use a single textbook, I now have collected a set of readings that I think are most integral to the important concepts that I hope to convey. Instead of discussing the applications of theories, I now infuse those methods throughout the course. Instead of having separate lessons on research methods, I now incorporate data collection and methodology throughout the course. In other words, I try to practice what I preach.

I include "living" material by mentioning editorials, cartoons from the day's paper, announcements about new legislation, and stories from conferences/meetings that I have attended. As I discovered from my readings as an undergraduate, education is anything but static, though textbooks seem to imply otherwise. My students are welcome to bring stories from their own experiences, and I always try to relate material that they bring to our content. Students can see how course content is alive in practice or legislation. For example, Florida recently passed a Readiness Bill, which relates to our content. I stress to

students that a teacher must know the content of the course well in order to take advantage of spontaneous events, and I try to show the similarity of my accountability for teaching them content to what their future expectations will be with regard to meeting the state benchmarks or state-mandated test material. My course must prepare them to take the professional knowledge test for teacher certification. I must cover different theories of learning and development. However, the content never has to dictate the method used to teach it. My students and their learning determine how I choose to teach that content.

In addition to the careful selection of the materials that I use to communicate the content and how I choose to present that material, I inform my students of what other methods I have tried in other semesters and why I chose the approach I used with them. I tell them what I am learning about them throughout the semester, so they can see how I select methods that optimize their learning. For example, after an initial cooperative learning activity was a disaster with one class, I told them we would try "think-pair-share" in the next class to see if that strategy was more successful. Later in the semester, when we did a different cooperative learning activity with great success, I reminded them about the initial failure and explained that I realized that some classes may need to build toward that type of learning. I intentionally vary the method of instruction I use across classes and from semester to semester. We talk about the results and what I could do differently the next time I teach that same content. I carefully model reflective practice and the "I wonder what will happen if..." approach to teaching. I think teaching is one grand experiment, and the excitement we feel as we anticipate the results serves as fuel. I can honestly say I have never taught the same course the same way in 13 years of college teaching.

Making one's thinking overt helps students to develop their metacognitive skills. Bodrova and Leong (1996) said Vygotsky believed that children first learn interpersonally and later incorporate the tool of language for working independently. Perhaps my students will internalize my self-talk to become self-regulated teachers. When we only present polished lectures in our education classes, students infer that teaching is no more than saying a script. We need to tell students what we are doing and why we are doing it. We need to admit our mistakes and tell them how we plan to change that way of teaching in the future. How can we expect students to become lifelong learners if we never reveal our own learning?

Showing students not only what they think is best but also contradictory approaches helps them to learn that no approach is completely right or completely wrong. What follows is a more concrete example of what I mean when I say that my students can benefit when I use an approach that is contradictory to what they think.

During the first half of the semester, I employ many active learning approaches. For example, students analyze a case study in cooperative groups or take a test on moral reasoning before they learn Kohlberg's theory of moral development. Then, somewhere in the middle of the semester, I give a traditional lecture that includes learning theory vocabulary on operant conditioning. For the following class, students arrive in class to discover worksheets to do. I try to be serious when giving them their assignment, "Complete the worksheets by yourself. There is to be no talking. You have only 10 minutes to complete them, but please do not get out of your seats when you are finished." I walk around the classroom enforcing the rules, and when students ask for assistance on the two words that have not been taught previously, I say, "Do the best you can." When students ask if these will be graded, I reply, "Yes."

It always amazes me that students are so compliant and do not stage a rebellion at this point. Instead, they dutifully work on their worksheets, occasionally looking at me for clues about the unfamiliar terms.

After 10 minutes, we switch papers and score the quizzes. I ask them what they think they learned. I explain that I intentionally used a method that was very different from what we normally do, but I wanted them to think about its strengths and limitations. We discuss how well suited this method was for reviewing vocabulary, how the climate of the classroom differed in this type of instruction versus other methods, and why. One student admitted that she was relieved that I was "only kidding." She said she usually enjoyed coming to class, but she was begin-

ning to regret coming to class today as she worked on her worksheets. We discuss their feelings when they encountered vocabulary I had not taught, and their feelings about my refusal to help them. We discuss the importance of cultivating dispositions for learning as well as teaching vocabulary.

We discuss how worksheets might be used in the classroom and what goals they might serve. Students realize that one big mistake that I made was giving the same worksheet to everyone. Some students knew all of the terms from a previous psychology course. These students finished within 5 minutes, and they had nothing else to do. This exercise was at best boring for them. It also wasted valuable instructional time. (I use this example to teach about engaged time, another topic that used to be covered in a separate chapter in the textbook.) Some students admit that they had not studied the vocabulary, and they felt overwhelmed. And, there always are some students who appreciated the opportunity to see how they were doing. The challenge and feedback was appropriate for them. I then reveal my own hypotheses about what would happen and tell why I started doing this activity. When I first started using this activity, I never expected anyone to value it. However, within one class, the majority of students wished we could do worksheets more frequently. They said they appreciated knowing whether they were right or wrong. They hated class discussions because they did not learn the right answer. It was at that point that I realized that different methods work with different students at every level.

The class that wanted more worksheets incorporated into their educational psychology class consisted mainly of traditional-age college students (i.e., 18 to 22 years old). They had few previous experiences with children, and they came from very traditional high schools, where lectures and worksheets were common. To meet their needs for learning the course material, I had to present more structured lessons and gradually build experiences with children and structured observations into my classroom. Asking them to analyze a situation was not a productive learning activity at the beginning of the semester. However, having them write what they thought before a class discussion or doing a think-pair-share resulted in more participation. Instead of condemning them, I had to find ways to reach them and then to work to challenge them. We cannot teach anyone if we do not form a relationship with them. If you condemn your college class for not meeting your expectations, you may as well be calling the school psychologist to find out what's wrong with students. Experimenting with different approaches and finding those that work with the group you have is a much more constructive approach.

After the worksheet exercise, I gave students a bingo game that used learning theory vocabulary. Every two students received a bingo card, and after I gave them a situation, they had to find the learning theory vocabulary on their bingo card. They were permitted to use books and notes. The prize for the winners was a coupon for 1 point added to the next quiz.

After playing the game, we discussed this method for learning vocabulary, and what the strengths and limitations were. We compared individual preferences for games versus worksheets. Some students did not like the chaotic atmosphere of the game. Some criticized the competition, and said this method was not appropriate for young children. We discussed alternative games without competitive overtones. Some students said they were more motivated to learn the vocabulary in game-like situations. There are always surprises in how individuals value or condemn any experience I offer them.

Encouraging students to look for the results of each method and to decide the merits and limitations in terms of learning, attitudes, and engagement helps them to think critically about teaching. Frequent quizzes systematically assess students' learning. After I demonstrate a method to my class, we decide how the approach could be modified based on what the outcome was. There are always people in class who prefer learning from more-familiar, traditional methods, so by discussing the pros and cons for individuals, students become more aware that they need to select approaches that match goals and children. No method is worthless. Some may be beneficial in the short term but detrimental in the long term. One can also overuse a good method so that it becomes ineffective. For example, I am tired of going to College of Education faculty forums during which I know we will be broken into small groups to discuss something and

then report back to the entire group. Why not work in a large group sometimes? It would take half as long. Why not try a listserv approach for reviewing and critiquing proposals? When a method is overused, we become tired of its predictability.

A final component I incorporate into educational psychology is a class assignment/paper. Though the particulars depend on schools' and students' needs each semester, the purpose is to help students apply their learning with children. One option was tutoring. Students were given several different approaches to try when tutoring a child in reading. Students selected several to try and evaluated the results of each approach using observable behaviors. Then, after the eighth session, they tried to use whatever had worked while addressing the child's interests for the remainder of their time together.

Conclusion

To summarize, the most important lessons I learned that equipped me to provide instruction that was responsive to the children I taught were learned outside of my education classes. However, I do not think students should have to leave education to learn an experimental approach toward teaching. In the present paper, I have explained some of the ways I create a climate that encourages the disposition to experiment with methods of teaching content. First, I make my own thinking overt to develop students' metacognition. Second, I demonstrate both popular and contradictory approaches to help students realize that no method is completely right or completely wrong. Third, I continuously assess students' attitudes and learning from each method. Discussions that follow reveal individual differences among students. The benefit of using multiple methods becomes apparent. I do not think methods should be taught as absolutes. The type of content, actual students, one's goals, other methods one has tried or used, and the results all help to determine which method may be best for this particular situation. Without systematic assessment, one could not evaluate the outcome of one's efforts objectively. Finally, I practice what I preach. I use integrated curriculum and prepare students to take professional knowledge tests without sacrificing depth and engagement in the learning process.

In conclusion, I think it is important for teacher educators to avoid giving students the impression that teaching is a finished product. I think teaching students to apply the scientific method in teaching is the greatest tool we can offer them. The disposition to experiment and the knowledge of how to assess the results systematically will someday insure that future teachers will seek ways for all children in their classes to learn.

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References

Bodrova, E., & Leong, D. J. (1996). *Tools of the mind: The Vygotskian approach to early childhood education*. Englewood Cliffs, NJ: Prentice-Hall.

Bredekamp, S., & Copple, C. (1997). *Developmentally appropriate practice in early childhood programs birth to age 8* (Rev. ed.). Washington, DC: National Association for the Education of Young Children. (ERIC Document No. ED403023)

Edwards, C. (1998). Partner, nurturer, and guide: The role of the teacher. In C. Edwards, L. Gandini, & G. Forman (Eds.), *The hundred languages of children: The Reggio Emilia approach—Advanced reflections* (2nd ed., pp. 179-198). Greenwich, CT: Ablex. (ERIC Document No. ED425855)

Katz, L. G. (1995). Helping others with their teaching. In L. G. Katz (Ed.), *Talks with teachers of young children: A collection* (pp. 253-267). Norwood, NJ: Ablex. (ERIC Document No. ED380232)

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